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CIA-RDP86-00513R000203820013-2

ASSOCIATION: ~~IMPERIAL OIL COMPANY LIMITED~~
(Petrochemical synthesis institute, AN SSSR)

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ABSTRACT: The reaction of α -chloro ketones with hydrogen on a fused iron catalyst were studied. A catalyst having the composi-

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CIA-RDP86-00513R000203820013-2

ASSOCIATION: Institut neftekhimicheskogo sinteza im. A. V. Topchiyeva AN SSSR

APPROVED FOR RELEASE: 06/06/2000

CIA-RDP86-00513R000203820013-2"

Card 2/2

KALINA, V. I.; KALOSHAIA, M.A.; BELTANIN, V.B.; KALOSHAIA, M.A.

Spectrophotometric determination of primary, secondary, and tertiary
higher aliphatic alcohols when present together. Zhur. anal. khim.
20 no.3:364-371 '65. (MIRA 18:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
Lomonosova i Institut neftekhimicheskogo sinteza imeni Topchiyeva
AN SSSR, Moskva.

• V.D. 11, 1965. A.D. 11, 1965. A.D. 11, 1965.

Catalytic activity of some sedimentary rocks in the synthesis of hydrocarbons from carbon monoxide and hydrogen. Dokl. AN SSSR 161 no.4:947-948 Ap '65. (MIRA 18:5)

1. Institut neftekhimicheskogo sinteza im. A.V.Topchiyeva AN SSSR i Moskovskiy gosudarstvennyy universitet. 2. Chlen-korrespondent AN SSSR (for Bashkirov).

... of reactions involving solids. Part 1. Oxidation of iron
by water. Kin. i kat. 6 no.4:619-624. Zh-Ag '65. (MIRA 18:9)

1. Institut neftekhimicheskogo sinteza imeni A.V.Topchiyeva AN SSSR.

English and American imperialism in Iran.

Ekspansiya Angliyskikh i Amerikanskikh Imperialistov v Irane (Expansion of English and American imperialism in Iran. Moskva) Gospolitizdat, 1954.
282 P.

Bibliographical Footnotes.

SO: 5K/5
122.5
.82

ARABADZHYAN, A.Z., kand.ekon.nauk; BADI, Sh.M., kand.ekon.nauk; BAROYAN, O.V., doktor med.nauk; BASHKIROV, A.V., kand.ekon.nauk; BUSHEV, P.P., kand. ist.nauk; GLUKHODED, V.S.; DOROFYEVA, L.H., kand.filol.nauk; DOROSHENKO, Ye.A., kand.ist.nauk; ZAVISTOVICH, A.A.; IVANOVA, M.N., kand. ist.nauk; IVANOV, M.S., doktor ist.nauk; IL'INSKIY, G.N., kand.ist. nauk; KISLYAKOV, N.A., doktor ist.nauk; KOMISSAROV, D.S., kand.filol. nauk; KURDOYEV, K.K., kand.filol.nauk; MOISKEYEV, P.P., kand.ekon. nauk; PAKHALINA, T.N., kand.filol.nauk; PETROV, M.P., doktor geogra- ficheskikh nauk, prof.; PETROV, G.M., kand.ist.nauk; SOKOLOVA, V.S., doktor filol.nauk; TRUBETSKOY, V.V.; PARKHADIYAN, A.I., kand.ist. nauk; SHOYTOV, A.M., kand.filol.nauk; ZAKHODER, B.N., doktor istori- cheskikh nauk, prof., otvetstvennyy red.; AKHRAMOVICH, R.T., kand. ist.nauk, red.; FALINA, A.I., kand.ist.nauk, red.; KUZNETSOVA, H.A., red. izd-va; SHVEYKOVSKAYA, V.R., red. izd-va; PRUSAKOVA, T.A., tekhn. red.

[Present-day Iran; a manual] Sovremennyyi Iran; spravochnik. Moskva, 1957. 715 p. (MIRA 11:2)

1. Akademiya nauk SSSR. Institut vostokovedeniya.
(Iran)

PADKIN, B. A.: "Connector anesthesia of the nerves of the lumbar region of cattle." Leningrad, 1955. Min Higher Education USSR. Leningrad Veterinary Inst (Dissertation for the Degree of Candidate of Veterinary Sciences)

SO: Knizhnaya Letopis' No. 47, 19 November 1955. Moscow.

BASHKIROV, B.A., aspirant.

Anesthesia of the udder in cows and its therapeutic qualities.
Veterinariia 32 no.1:74-77 Ja '55. (MLRA 8:2)

1. Leningradskiy institut usevershenstvevaniya veterinarnykh
vrachey.

(UDDER--DISEASES) (ANESTHESIA)

USSR/Diseases of Farm Animals. Diseases Caused by Bacteria and Fungi R-1

Abs Jour : Ref Zhur - Biol., No 7, 1958, No 31070

Author : Bashkoriv, B.A., [name (s) omitted]; Ostrovskiy, N.S.
Inst : Novocherkassk Zootechnical Veterinary Institute
Title : Clinical Observations Regarding the Treatment of Cows in
Certain Forms of Mastitis.

Orig Pub : Tr. Novocherkasskogo zootekhn.-vet. in-ta, 1957, vyp. 10,
399-402

Abstract : In the treatment of 14 cows affected with acute serous mastitis; a high therapeutic effect was achieved by the use of novocaine block of the nerves stimulating the udder. In the case of a limited purulent mastitis, incisions with subsequent drainage of the opened purulent foci produced positive results. In a chronic disseminated suppurative mastitis, the extirpation of the affected part or of the whole udder is considered as expedient by the authors.

Card : 1/1

AUTHOR: Bashkirov, B.G. _____

127-58-4-4/31

TITLE: Causes of Fire in a Lead-Zinc Mine (Prichiny pozhara na svintso-vo-tsinkovom rudnike)

PERIODICAL: Gornyy Zhurnal, Nr 4, 1958, pp 14-29 (USSR)

ABSTRACT: The author studied the causes of the spontaneous ignition of polymetallic ore in the Tekeli mine. This fire started in 1949 and still continues. Several measures were prescribed to stop the spreading of fire, but the prescribed measure of extinguishing the fire by mud was not executed and led to further intensification of the fire. It was also found out that the contents of useful components in the ore has diminished by about 10%. The ground waters used for extinguishing the fire caused the lixiviation of some minerals from the ore, which are deposited in the lower levels and in some places stalactites have been formed. The study of samples of ore from the hearth of the fire showed that only the sulfidic and carbonaceous parts of the ore were oxidized and that no change occurred in the rest of it. Sulfur is found mainly in puritic ores, which were not extracted from the upper levels. This circumstance helped the propagation of the fire. The author found, that endogenous fire can occur in lead-zinc deposits. Continuous observation of the air temperature,

Card 1/2

127-58-4-4/31

Causes of Fire in a Lead-Zinc Mine

water and extracted ore must be conducted. Pyrite ores - the immediate cause of the ignition - must be extracted during exploitation. Each mine must determine the sectors exposed to the danger of endogenous fire and keep them under observation. There is a note from editors at the end of article, which draws the attention of other mines to the observation of all measures of prevention. There is 1 table and 1 figure.

ASSOCIATION: Tekeliyskiy Kombinat (The Tekeli Combine)

Card 2/2 1. Mine fires - USSR 2. Mines - Fire prevention

BASHKIROV, B.G.

Genesis of lead-zinc deposits in the Dzungarian Ala-Tau. Sov.
geol. 5 no.3:135-140 Mr '62. (MIRA 15:4)

1. Rudnik Tekeli.
(Dzungarian Ala-Tau--Lead) (Dzungarian Ala-Tau--Zinc)

BASHKIROV, B. V.

Treatment of root canals with pancreatin. Stomatologiya 42
no. 4:96 J1-Ag'63 (MIRA 17:4)

1. Odesskiy meditsinskiy institut.

S/276/63/000/001/001/028
A006/A101

AUTHORS: Bashkirov, B. Ya., Chernyavskaya, L. V.

TITLE: Heat treatment assuring long-lasting stability of dimensions and geometry of bearing rings for instruments

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no. 1, 1963, 40, abstract 1B209 ("Tr. Vses. n.-i. konstrukt.-tekhnol. in-ta podshipnik. prom-sti", 1961, no. 3 (27), 3 - 14)

TEXT: Information is given on investigation of heat treatment conditions assuring long-lasting stability of ring dimensions of instrument bearings 6005/1 and 23/01. As a result, 5 heat treatment variants were worked out. Mean values of varying external diameters of 6005/1 rings were measured after artificial aging and from the years of natural aging. To reveal the effect of additional tempering after grinding upon the stability of ring dimensions in artificial aging, the investigation was made on specimens 8 mm in diameter, 120 mm length, and rings, 10 and 24 mm in diameter, made of 24 x 15 vacuum steel. Heat treating conditions are given in a table. Changes in the dimensions of rings, 10 and 24 mm in diameter,

Card 1/2

Heat treatment assuring long-lasting stability of...

S/276/63/000/001/007/028
A006/A101

were determined after aging, after aging with tempering, and during heat treatment. On the basis of the investigation performed on natural and artificial aging of the rings, which had been subjected to several variants of heat treatment, the optimum variant of techniques was established which assures the stability of dimensions and geometry of the rings during an extended period of time: a) quenching in oil and chilling at - 50 to - 70°C b) tempering at 150°C for 2 - 3 hours; c) intermediate tempering after preliminary grinding at 120 - 130°C for 10 hours. There are 10 figures.

T. Kislyakova

[Abstracter's note: Complete translation]

Card 2/2

ASHKIN, Y. Y.

Sub-Zero Treating of Cutting Tools. I. N. Lagutsov and B. Ya. Baabikov. 8 pages. Henry Bratcher, Altadena, Calif. (Translation No. 2031.) From *Vestnik Mashinostroyeniya* (Machine Engineering News), v. 27, no. 8, 1947, p. 60-63.

Presents results of an investigation of the influence of sub zero hardening on the cutting performance of 18-4-1 high speed tools. Gives data on cutting tools and heat treatments tested and describes procedure for tool-life tests. Also gives conclusions concerning phase transformations occurring and compares results with American data.

EAB H A I K O V, D. A.

SOLODOVNIKOV, V.V.; professor, doktor tekhnicheskikh nauk, redaktor;
 AYZERMAN, M.A., doktor tekhnicheskikh nauk; BASHKIROV, D.A., kandidat
 tekhnicheskikh nauk; BROMBERG, P.V., kandidat tekhnicheskikh nauk;
 VORONOV, A.A., kandidat tekhnicheskikh nauk, dotsent; GOL'DFARB, L.S.,
 doktor tekhnicheskikh nauk, professor; KAZAKEVICH, V.V., doktor tekhnicheskikh nauk; KRASOVSKIY, A.A., kandidat tekhnicheskikh nauk,
 dotsent; LERNER, A.Ya., kandidat tekhnicheskikh nauk; LETOV, A.M.,
 doktor fiziko-matematicheskikh nauk; professor; MATVEYEV, P.S.,
 inzhener; MIKHAYLOV, F.A., kandidat tekhnicheskikh nauk; PETROV, B.N.;
 PETROV, V.V., kandidat tekhnicheskikh nauk; POSPELOV, G.S., kandidat
 tekhnicheskikh nauk, dotsent; TOPCHENYEV, Yu.I., inzhener; ULANOV,
 G.M., kandidat tekhnicheskikh nauk; KHRAMOV, A.V., kandidat tekhnicheskikh nauk; TSYPKIN, Ya.Z. doktor tekhnicheskikh nauk, professor;
 LOSSIYEVSKIY, V.L., doktor tekhnicheskikh nauk, professor, retsenzent;
 TIKHONOV, A.Ya., tekhnicheskiiy redaktor

[Fundamentals of automatic control; theory] Osnovy avtomaticheskogo
 regulirovaniya; teoriya. Moskva, Gos. nauchno-tekhn. izd-vo mashino-
 stroit. lit-ry, 1954. 1116 p. (MLRA 8:2)

1. Ohlen-korrespondent AN SSSR (for Petrov, B.N.)
 (Automatic control)

124 1957-1-119

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 1, p 13 (USSR)

AUTHOR: Bashkirov, D. A.

TITLE: A Method for the Design of Transitional Processes in Non-linear Automatic Regulation Systems (Metod postroyeniya perekhodnykh protsessov v nelineynykh sistemakh avtomaticheskogo regulirovaniya)

PERIODICAL: Tr. 2-go Vses. soveshch. po teorii avtomat. regulirovaniya. Vol II. Moscow-Leningrad. Izd-vo AN SSSR, 1955, pp 82-95

ABSTRACT: The paper presents a method of graphical construction of transitional processes in linear and non-linear automatic regulation systems. The method is founded on the graphical construction of the processes occurring in the elementary links of the regulating system, namely, those of the integrating and of the aperiodic type. The system under investigation is presented in the form of a structural schematic diagram composed of a combination of the above-mentioned typical links.

S. I. Bernshteyn

Card 1/1

1. Mathematics
2. Transition--Processes
3. Graphs--Construction

"Finding the Roots of Algebraic Equations by the Method of Successive Divisions," Trudy Voenno-Morskoy Akademii Korablestroyeniya i Vooruzheniya im. A.N. Krylov / Proceedings, Naval Ship Construction and Armament Academy imeni A.N. Krylov

All-Leningrad Seminar on the Theory of Automatic Control (1955-1956)

USSR/Chemistry - Laboratories, Industrial Aug 48
Chemistry - Analysis

"Progressive Norms in Analytical Work," K. A.
Nabatova, Supervisor, Gen Lab, D. V. Bashkirov,
Supervisor, Chem Lab, Factory of Small Capacity
Automobiles, 1 p

"Zavod Lab" Vol XIV, No 8

Lab employs seven analysts--five ferrous and two
nonferrous. Table shows methods used for various
determinations, time taken and number of analyses
completed per month.

USSR/Engineering

Apr 1948

Lubricants - Cooling
Tools, Cutting

"The Physical and Chemical Actions of the Cooling of
Lubricants on the Process of Removing Turnings,"
F. A. Bashkirov, 5 pp

"Stanki i Instrument" No 4

Gives factors that affect the selection of proper
cooling lubricating liquid, the turning process,
the effect of subject liquid in grinding, milling,
and gear cutting, and several other methods of
working metals.

BASHKIROV, G., kand.tekhn.nauk, dotsent

Increasing sea harbor depths. Mor. flot 22 no.5:35-37 My
'62. (MIRA 15:5)

1. Odesskiy institut inzhenerov morskogo flota.
(Harbors) (Dredging)

BASHKIN, G., Captain, 1st Lt.

Storm-caused sedimentation of gats and their deepening. Mor.
flot 25 no.4:31-32 Ap '65. (MIRA 18:6)

... ..

Success and shortcomings of conferences at the "Serp i Molot"
Plant. Metallurg 5 no. 12:39-40 D '60. (MIRA 13:11)

1. Inzhener otdela organizatsii truda zavoda "Serp i molot."
(Metallurgical plants)

PAFFING, C. J.

Equations for turbulent motion of incompressible fluids.

Gidrotekhnika no.1:48-52 '61.

(MIRA 15:3)

(Turbulence)

Tree planting as a method of preventing stream erosion. Sverdlovsk, Ministerstvo Geologiya
flota SSSR, 1991. 49 p.

1. Erosion - Prevention.
2. Soil - binding
3. Embankments.
4. Afforestation - Russia.

"Soil-binding forestation; Moskva, Ministerstvo rechnogo flota SSSR, 1951

1.
2. USSR (600)
4. Soils (Engineering)
7. Approximate determination of the incline of washed out ground slopes, Gidr. stroi., 21, No. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

"Questions of the Application of Open Structures of the Type of
and File Type in River Bed Hydraulic Engineering." Cand. Tech. Sci.,
Leningrad Inst of Water Transport Engineers, Leningrad, 1953.
(RZhMekh, Sep 54)

SO: Sum 432, 29 Mar 55

BASHKIROV, G.S., kandidat tekhnicheskikh nauk.

Calculating protective hydraulic structures. Gidr. i mel. 8 no.12:22-
26 D'56. (IRA 10:1)

(Shore protection)

SOV 24-28-8-871

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 8, p 61 (USSR)

AUTHOR: Bashkirov, G.S.

TITLE: The Approximate Model Testing of the Erosion of the Floor of a Reservoir (Priblizhennoye modelirovaniye razmyvayemogo dna vodoyema)

PERIODICAL: Nauchn. tr. Odessk. in-ta inzh. morsk. flota, 1957, Nr 13, pp 121-125

ABSTRACT: The author takes the equation for the equilibrium of a soil particle lying on the slope of a reservoir embankment as the basis of his proposed method for making an approximate model study of the erosion of a reservoir bottom through wave action. This equation, which is somewhat more complicated than the author's original equation (Gidrotekhn. str-vo, 1952, Nr 10, pp 30-32) and is no less approximate than others like it, has no special advantages over them. The water velocity is determined theoretically by means of the formula for small-amplitude waves assuming a horizontal bottom, i.e., disregarding the influence exerted by any slope that the bottom might have.

Card 1/2 When a number of assumptions are made (that are anything but

SOV, 124-58-8-8761

The Approximate Model Testing of the Erosion of the Floor of a Reservoir
unassailable), the basic equation does yield the desired similarity criteria,
which, in the author's opinion, are experimentally confirmed. He includes
no material whatever which would make it possible to compare his calculations
with his experimental results.

M.A. Dement'yev

Card 2/2

26-58-2-9148

AUTHOR: Bashkirov, G.S., Candidate of Technical Sciences

TITLE: The Protective Role of Riparian Afforestation (Zashchitnaya rol' pribrezhnykh lesoposadok)

PERIODICAL: Priroda, 1958, Nr 2, pp 55-58 (USSR)

ABSTRACT: The author discusses the part played by the planting of trees or reeds in the prevention of soil erosion along the banks of rivers and storage lakes. He deals especially with planting in areas subject to flooding and the necessity in this case of finding some variety of tree which can stand up to long periods of inundation. By building up belts of vegetation along the bank, the formation of ravines, which may develop otherwise into a vast network with extensive soil erosion, can be prevented. The author gives several examples of cases of erosion due to lack of forestation and also examples of the protective effect that forestation can exert. Reeds afford good protection in shallow areas and with waves of small dimensions but for deeper areas it is necessary to discover some other plant with extensive root development that can be planted at a depth of 4-6 m. The author calls for greater attention to be paid by

Card 1/2

The Protective Role of Riparian Afforestation

26-58-2-9/48

all concerned to the afforestation of the banks of rivers and storage lakes.
There are 5 photos and 1 Soviet reference.

ASSOCIATION: Institut inzhenerov morskogo flota, Odessa (Institute of Marine Engineers, Odessa)

Card 2/2 1. Soils--Erosion--Prevention 2. Vegetation--Applications

BASHKIROV, G.S., kand.tekhn.nauk, dotsent

Energy losses and deflection of waves passing through structures.
Nauch.trudy OIIMF no.16:15-23 '58. (MIRA 11:11)
(Waves)

BASHKIROV, G., det sent

Calculating wave dissipation in open breakwaters of the screen
and net types. Mor.flot 19 no.6:19-21 Je '59.
(MIRA 12:9)

1. Odesskiy institut inzhenerov morskogo flota.
(Waves) (Breakwaters)

BASHKIROV, G.S., kand.tekhn.nauk

Plantings along shores. Priroda 49 no.8:89-91 Ag '60.

(MIRA 13:8)

1. Odesskiy institut inzhenerov morskogo flota.
(Shore protection)

LASHINOV, Gennadiy Sergeevich; SHENKHAL, G.S., red.; LAPIA, A.B.,
red. izd-va; LAVRENKOVA, N.B., tekhn. red.

[Dynamics of the shore zone of seas] Dinamika pribrezhnoi zony
moria. Moskva, Izd-vo "Morskoi transport," 1961. 219 p.
(MIRA 15:3)

(Seashore)

BASHKIROV, G.S.

"Methods of fortifying sandy shores" by R.IA.Knaps. Reviewed by
G.S.Bashkirov. Gidrotekhnika no.1:103-105 '61. (MIRA 15:3)
(Shore protection)

BASHKIROV, G.S.

Simultaneous model studies of the bed load and suspended load.
Trudy Okean.kom. 8:125-128 '61. (MIRA 14:5)

1. Odesskiy institut inzhenerov morskogo flota.
(Sedimentation and deposition)

Calculation of sediment composition in certain verticals of
lakes and seas. Mor. flot 21 no.9:33-34 S '61. (MIRA 14:9)

1. Kafedra gidravliki i vodnykh issledovaniy Odesskogo in-
stituta inzhenerov morskogo flota.
(Sedimentation analysis)

BASHAIROV, G.S.

Computation and analysis of alluviation in channels in coastal
shoals of tideless seas. Gidrotekhnika no.2:5-11 '62.

(Alluvium)

(MIRA 16:5)
(Hydrodynamics)

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BASHKIROV, V.S., and. techn. task (Glasno-

Dynamics of the banks of reservoirs and some problems of melioration.
Gidr. i mel. 16 no.8:61-62 Ag '64. (MIRA 17:10)

... ..

... ..
... ..
... ..

TITLE: Limiting velocity of wind-produced currents in the surface layer and phenomena in the contact zone

SOURCE: Okeanologiya, v. 6, no. 2, 1966, 217-220

TOPIC TAGS: ocean current, wind velocity, fluid friction, fluid viscosity

ABSTRACT: The standard expression is given for current velocity as a function of the averaged steady wind velocity v_w : $v = av_w^m$, in which m is near unity when turbulence is maximal, and a , a complex function of wind roughening of the water surface, is generally 0.015--0.024, but may reach 0.035. Considering the effect of aeration at the surface and variations in turbulence, average values are found for turbulent viscosity ($\sim 0.0225 v_w^3/\rho$) and friction ($3.2 \cdot 10^{-3} v_w^2 \frac{\rho}{m}$, in newtons). This indicates a limiting velocity of the water current of $\sim (0.028-0.034)v_w$, depending on atmospheric pressure and water density. These values

L. Gora

UFG. 551.365.000.001

corresponds rather well with experimental data published in the literature. The averaged value of turbulence proves to be 0.0023. This value satisfies best the experimental data supplied by a number of authors. Orig. art. has 8 formulas.

SUB CODE: 08.70/SUBM DATE: 14Dec64/ ORIG REF: 008/ CDS REF: 001

Card 2/2

BARON, Lazar' Izrailevich, doktor tekhn. nauk, prof.; YERSHOV,
Nikolay Nikolayevich, kand. tekhn. nauk; BASHKIROV, I.A.,
spets. red.; ROZHKO, K.M., red.-leksikograf; FLAKSHE,
L.Yu., tekhn. red.

[French-Russian mining dictionary] Frantsuzsko-russkii
gornyi slovar'. Pod red. L.I.Barona. Moskva, Fizmatgis,
1963. 829 p. (MIRA 16:7)
(French language--Dictionaries--Russian)
(Mining engineering--Dictionaries)

PHASE I BOOK EXPLOITATION - 50V/4893

Вещьынуорэ совещаниы по физике, физико-химическим свойствам фертилов и физическим основам их применения. 30. Минат, 1959

Fertility: fizicheskiye i fiziko-khimicheskiye svoystva. Dokiady (fertilty: Physical and Physicochemical Properties. Reports) Minat, Izd-vo AN BSSR, 1960. 655 p. Errata slip inserted. 4,000 copies printed.

Sponsoring Agencies: Nauchnyy Sovet po magnetizmu AN SSSR. Order:
fiziki tverdogo tela i poluprovodnikov AN SSSR.

Editorial Board: Resp. Ed.: N. M. Sirota, Academician of the Academy of Sciences USSR; K. P. Palov, Professor; Ye. I. Kondratyuk, Professor; E. M. Polivanov, Professor; G. V. Tselenin, Professor; O. A. Sotolansky, Professor; M. M. Shol'ts, Candidate of Physical and Mathematical Sciences; E. M. Solov'yenko; L. A. Bashkurov, Ed. of Publishing House; S. Khol'yavsky; Tech. Ed.: I. Volokhovnikov.

REVIEWER: This book is intended for physicists, physical chemists, radio electronics engineers, and technical personnel engaged in the production and use of ferromagnetic materials. It may also be used by students in advanced courses in radio electronics, physics, and physical chemistry.

OUTLINE: The book contains reports presented at the Third All-Union Conference on Ferrites held in Minsk, Belorussian SSR. The symposium was devoted to the problems of the synthesis and properties of ferrites with magnetic transformations, electrical and galvanomagnetic properties of ferrites, studies of the growth and structure of ferrite single crystals, problems in the chemical and physicochemical analysis of ferrites, studies of ferrites having rectangular hysteresis loops, studies of two-component ferrite systems exhibiting spontaneous retransformability, problems in magnetic attraction, highly coercive ferrites, problems in magnetic ferroresonance, magneto-optics, physical spectroscopy, using ferrite components in electrical circuits, principles of electrical and magnetic properties, etc. The Committee on Ferrites, USSR (S. V. Novosvetskiy, Chairman) organized the conference. References accompany individual articles.

Ferrites, -ont.)

307/4893	Parakelins, I. M., and A. A. Akochenskiy. Magnetic Anisotropy of Single Crystals of Iron-Cobalt Ferrites	195
	Teitinkov, M. D., and E. G. Khomakov. Experiment in Producing Ferrites by Non-Transmission Methods	100
	Teitinkov, I. A., A. P. Palkin, and N. M. Sirota. Formation of Ferrites during the Decomposition of Salts	111
	Xezanov, V. L., and I. I. Petkov. Investigation of the Properties of Nickel-Zinc Ferrites of Near-Stoichiometric Composition	117
	Xezanov, V. L., and E. G. Khomakov. Colorimetric Determination of the Rate of Formation of Ferrites	124
	Xezanov, V. V. The Chemical Nature of Some Magnetic Spinels of the System $\text{MgO-MnO-Fe}_2\text{O}_3$. Spinels With Rectangular Hysteresis Loop	129
	Xezanov, V. V., A. P. Palkin, and N. M. Sirota. X-Ray Investigation of the Ternary System $\text{MgO-Fe}_2\text{O}_3\text{-ZnFe}_2\text{O}_4$	159

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[Ferrates; physical and physicochemical properties] Ferrity; fizicheskie i fiziko-khimicheskie svoistva. Doklady. Minsk, Isd-vo Akad.nauk BSSR, 1960. 655 p. (MIRA 13:11)

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2. AN BSSR (for Sirots).

(Ferrates)

BASHKIROV, L.A. [Bashkirau, L.A.]; PALXIN, A.P.; SIROTA, M.M. [Sirata, M.M.]

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- 67 -

SIROTA, N.N., akademik, otv. red.; SOTSKOV, B.S., red.;
ROZENBLAT, M.A., prof., red.; BASHKIROV, L.A., kand.
khim. nauk, red.; KHOLYAVSKIY, S., red.izd-va;
VOLOKHANOVICH, I., tekhn. red.

[Ferrites and contactless elements] Ferrity i beskon-
taktnye elementy; doklady. Minsk, Izd-vo AN BSSR, 1963.
418 p. (MIRA 17:3)

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nym magnitnym elementam avtomatiki. 3d, Minsk. 2. Akade-
miya nauk Bel.SSR (for Sirota). 3. Chlen-korrespondent AN
SSSR (for Sotskov).

San Francisco, Cal., March 10, 1936; Berkeley, Cal., April.

Thermal stresses in the walls of a cylinder. Energomashinostroenie
7 no.4:44-45 Ap '61. (MIRA 14:7)

7 no.4:44-45 Ap '61.

(MIRA 14:7)

(Heat exchangers)

(Heat-Transmission)

S/089/61/010/002/003/018
B102/B209

11.9100

AUTHORS: Maksimenko, B. I., Nikitin, K. N., Bashkirov, L. I.

TITLE: On the thermo-elastic tensions in the walls of a reactor with internal unsteady heat sources

PERIODICAL: Atomnaya energiya, v. 10, no. 2, 1961, 131-137

TEXT: In unsteady processes, thermo-elastic tensions exceeding those during steady operation may occur on places of contact and in single parts. In order to be able to guarantee operation in the case of varying thermal loads, an investigation of temperature propagation is necessary, i. e. the problem of unsteady heat conduction must be solved under the following conditions:
1) the internal heat sources are uniformly distributed in the wall material,
2) the coefficient of thermal conductivity of the material is independent of temperature, 3) the amount of the thermo-elastic tensions does not surmount the tensile strength of the material, the shape of the walls remains unchanged, 4) the temperature field is uniform. This problem is subject to the present paper, viz. for the cases of a plane and of a cylindric wall. X

Card 1/10

89353

On the thermo-elastic ...

S/089/61/010/002/003/018
B102/B209

Since internal heat sources chiefly give rise to tangential strains, the present calculations are restricted to the latter only. First, the equation of heat conduction $\partial t / \partial x = a \frac{\partial^2 t}{\partial y^2} + \frac{q_v}{c_p \gamma}$ for a plane 2δ thick wall is solved with the boundary condition $\partial t / \partial y|_{y=\pm\delta} = \pm h(t_T - t)$ and the initial condition $t|_{t=0} = t_0$, where $h = \alpha/\lambda$ denotes the ratio: heat transfer to heat conduction coefficient, $t_T = t_0 + c\tau$ the coolant temperature ($^{\circ}\text{C}$), t_0 the initial temperature of the medium in contact with the wall, and c the rate of temperature change of the coolant. The coolant temperature is assumed to vary linearly with temperature and the power of the internal heat sources to be constant with respect to time ($q_v = \text{const}$). Thus, the steady-state solution

Card 2/10

On the thermo-elastic ...

S/089/61/010/002/003/018
B102/B209

$$t = t_1 + \alpha \tau + \frac{w \delta^3}{2a} \left(1 - \frac{y^3}{\delta^3} + \frac{2}{h \delta} \right) -$$

$$- \frac{\delta^3}{a} \left(w - \frac{q_0}{c_p \gamma} \right) \sum_{n=1}^{\infty} \frac{2 \sin \beta_n \cos \left(\beta_n \frac{y}{\delta} \right)}{\beta_n^3 (\beta_n + \sin \beta_n \cos \beta_n)} \times$$

$$\times \exp \left(- \beta_n^2 \frac{\alpha \tau}{\delta^2} \right), \quad (3)$$

is obtained, where $w = \dot{c} - q_v / c_p$ denotes the rate of temperature variation of a point in the wall. Expressions for the thermo-elastic tangential stresses σ are derived for various initial conditions. These expressions show the following: The σ are directly proportional to w and δ^2 , and inversely to the coefficient of temperature conductivity; the absolutely highest strain appears on the surface of the plates; the magnitude of the strain on the surface rises with time. After some time,

$\sigma = \frac{\alpha_t E}{1-\mu} \frac{w \delta^2}{2a} (1/3 - y^2/\delta^2)$. Only now, the authors proceed to considering heat sources of variable power and the variation of the coolant temperature. This is performed for step-wise variation of coolant temperature and source

Card 3/10

On the thermo-elastic ...

S/089/61/010/002/003/018
B102/B209

capacity (cf. Fig. 2)); the linear and/or continuous conditions which were studied for introduction hold for the individual steps. In this case,

$$\sigma_m = \frac{\alpha_l E}{1-\mu} \left\{ \frac{w_m \delta^3}{2a} \left(\frac{1}{3} - \frac{y^2}{\delta^2} \right) + \frac{\delta^2}{a} \times \right. \\ \times [w_1 (\bar{\Phi}_{\tau} - \Phi_{\tau}) + (w_2 - w_1) (\bar{\Phi}_{\tau-\tau_1} - \Phi_{\tau-\tau_1}) + \dots \\ \left. \dots + (w_m - w_{m-1}) (\bar{\Phi}_{\tau - \sum_{i=1}^{m-1} \tau_i} - \Phi_{\tau - \sum_{i=1}^{m-1} \tau_i}) \right\}. \quad (14)$$

is obtained for σ , with

$$\Phi_{\tau-\tau_1} = \sum_{n=1}^{\infty} \frac{2 \sin \beta_n \cos \left(\beta_n \frac{y}{\delta} \right)}{\beta_n^3 (\beta_n + \sin \beta_n \cos \beta_n)} \times \\ \times \exp \left[-\beta_n^2 \frac{a(\tau-\tau_1)}{\delta^2} \right]; \\ \Phi_{\tau-\tau_1-\tau_2} = \sum_{n=1}^{\infty} \frac{2 \sin \beta_n \cos \left(\beta_n \frac{y}{\delta} \right)}{\beta_n^3 (\beta_n + \sin \beta_n \cos \beta_n)} \times \\ \times \exp \left[-\beta_n^2 \frac{a(\tau-\tau_1-\tau_2)}{\delta^2} \right] \text{ и т. д.};$$

Card 4/10

On the thermo-elastic ...

S/089/61/010/002/003/018

B102/B209

$$\Phi_{\tau-\tau_1} = \sum_{n=1}^{\infty} \frac{2 \sin^2 \beta_n}{\beta_n^2 (\beta_n + \sin \beta_n \cos \beta_n)} \times \\ \times \exp \left[-\beta_n^2 \frac{a(\tau-\tau_1)}{\delta^2} \right];$$

$$\Phi_{\tau-\tau_1-\tau_2} = \sum_{n=1}^{\infty} \frac{2 \sin^2 \beta_n}{\beta_n^2 (\beta_n + \sin \beta_n \cos \beta_n)} \times \\ \times \exp \left[-\beta_n^2 \frac{a(\tau-\tau_1-\tau_2)}{\delta^2} \right] \text{ и т. д.}$$

The mean wall temperature is given by

$$t = t_0 + c\tau - \frac{w_m \delta^2}{2a} \left(\frac{2}{3} + \frac{2}{h\delta} \right) + \\ + \frac{\delta^2}{a} [w_1 \Phi_{\tau} + (w_2 - w_1) \Phi_{\tau-\tau_1} + \dots \\ \dots + (w_m - w_{m-1}) \Phi_{\tau-\sum_{i=1}^{m-1} \tau_i}], \quad (13)$$

m denotes the number of steps. After a respective time, $\sigma_m = \frac{\alpha t E}{1-\mu} \frac{W_m \delta^2}{12a}$ X
 $(1/3 - y^2/\delta^2)$ is attained again, where $w_m = c_m - q_{v,m}/c_p \delta$. Now, the analo-

Card 5/10

77353

S/089/61/010/002/003/018

B102/B209

On the thermo-elastic ...

gous process is performed for the case of a cylindrical wall: The equation of heat conduction $\frac{\partial t}{\partial t} = a \left(\frac{\partial^2 t}{\partial r^2} + \frac{1}{r} \frac{\partial t}{\partial r} \right) + \frac{q_v}{c_p \rho}$ is solved for two different

cases of heat deduction. 1) The case of internal heat deduction for linear variation in coolant temperature and isolated outer wall of the tube. With

$\frac{\partial t}{\partial r} \Big|_{r=r_2} = 0$, $\frac{\partial t}{\partial r} \Big|_{r=r_1} = -h(t_T - t)$, and $t|_{\tau=0} = t_0$, where $t_T = t_0 + c\tau$, the expression

$$t = t_0 + c\tau - \frac{wr_1^2}{4a} \left[1 + (k^2 - 1) \frac{2}{hr_1} - q^2 + \right. \\ \left. + 2k^2 \ln q \right] + \frac{wr_1^2}{a} \Phi \left(\frac{a\tau}{r_1^2}; q; hr_1; k \right), (17)$$

is obtained; $k = r_2/r_1$, $q = r/r_1$, where r_2 , r_1 , and r denote the outer, the inner, and the running radius of the tube, respectively. The mean temperature is

Card 6/10

On the thermo-elastic ...

S/089/61/010/002/003/018
B102/B209

$$\begin{aligned} \bar{t} = t_0 + c\tau - \frac{wr^2}{4a} \left[\frac{3}{4} - \frac{5}{4}k^2 - \frac{1}{4}q^2 - \frac{1}{4}\frac{k^3}{q^3} + \right. \\ \left. + \frac{k^4}{k^2-1} \left(1 + \frac{1}{q^2} \right) \ln k + k^3 \ln q + (k^2-1) \times \right. \\ \left. \times \frac{2}{hr_1} \right] + \frac{wr^2}{a} \bar{\Phi} \left(\frac{a\tau}{r^2}; q; k; hr_1 \right). \quad (19) \end{aligned}$$

and for the thermo-elastic tensions on the outer and on the inner wall, (22) and (23), respectively, are obtained:

$$\sigma_s^{\text{nap}} = \frac{\alpha_1 E}{1-\mu} \frac{wr^2}{a} \left[\frac{1}{4} \left(\frac{1}{2}k^2 + \frac{1}{2} - \frac{2k^2}{k^2-1} \ln k \right) + (\bar{\Phi} - \Phi)^{\text{nap}} \right]; \quad (22)$$

$$\sigma_s^{\text{in}} = \frac{\alpha_1 E}{1-\mu} \frac{wr^2}{a} \left[\frac{1}{4} \left(\frac{3}{2}k^2 - \frac{1}{2} - \frac{2k^4}{k^2-1} \ln k \right) + (\bar{\Phi} - \Phi)^{\text{in}} \right]. \quad (23)$$

Card 7/10

S/089/61/010/002/003/018

B102/B209

On the thermo-elastic ...

Furthermore,

$$\sigma_m = \frac{\alpha_1 E}{1-\mu} \frac{w_m r_1^2}{4a} f(k, \varphi) + \frac{\alpha_1 E}{1-\mu} \frac{r_1^2}{a} \times$$

$$\times \left[w_1 (\bar{\Phi}_r - \Phi_r) + (w_2 - w_1) (\bar{\Phi}_{r-r_1} - \Phi_{r-r_1}) + \dots + (w_m - w_{m-1}) (\bar{\Phi}_{r-\sum_{i=1}^{m-1} r_i} - \Phi_{r-\sum_{i=1}^{m-1} r_i}) \right]. \quad (24)$$

where m again denotes the number of steps and $f(k, \varphi) = \frac{1}{4} (1-\varphi^2) (1+k^2/\varphi^2) - \frac{k^4}{k^2-1} (1+1/\varphi^2) \ln k + k^2 \ln \varphi + k^2 - \varphi^2$. After a respective time, when the difference $(\bar{\Phi} - \Phi)$ has become negligibly small,

$$\sigma_{\text{nap}} = \frac{\alpha_1 E}{1-\mu} \frac{w_m r_1^2}{4a} \left(\frac{1}{2} k^2 + \frac{1}{2} - \frac{2k^2}{k^2-1} \ln k \right); \quad (25)$$

$$\sigma_{\text{an}} = \frac{\alpha_1 E}{1-\mu} \frac{w_m r_1^2}{4a} \left(\frac{3}{2} k^2 - \frac{1}{2} - \frac{2k^2}{k^2-1} \ln k \right). \quad (26)$$

Card 8/10

On the thermo-elastic ...

S/089/61/010/002/003/018
B102/B209

hold for the outer and inner temperature, respectively. 2) Deduction of heat to the outside with linear temperature variation in the coolant and isolated inner surface.

$$\sigma_H^{nap} = \frac{\alpha_t E}{1-\mu} \frac{wr^2}{a} \left[\frac{3}{8} - \frac{1}{8} k^2 - \frac{1}{2} \frac{\ln k}{k^2-1} + (\bar{\Phi} - \Phi)^{nap} \right]; \quad (27)$$

is obtained for the outer and

$$\sigma_H^{an} = \frac{\alpha_t E}{1-\mu} \frac{wr^2}{a} \left[\frac{1}{8} (k^2 + 1) - \frac{k^2 \ln k}{2(k^2-1)} + (\bar{\Phi} - \Phi)^{an} \right]; \quad (28)$$

for the inner surface of the cylinder. In investigations at the Laboratoriya nagreva Nauchno-issledovatel'skogo trubnogo instituta (Heating Laboratory of the Scientific Research Institute for Tubings) it was shown that a hollow cylinder may always be regarded as a rolled up plate. On this basis, some more formulas are given, expressing the temperature differences in terms of so-called form coefficients (m, n). It is finally shown that a hollow

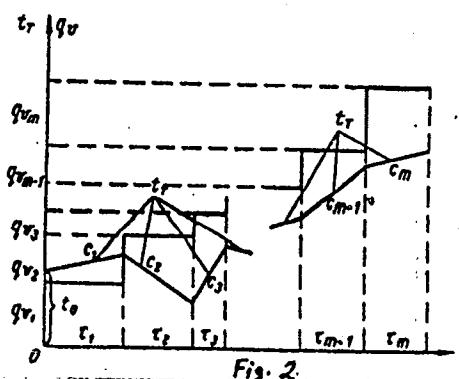
Card 9/10

On the thermo-elastic ...

S/089/61/010/002/003/018
B102/B209

cylinder may be treated as a rolled up plate with the thickness $\delta_1 = \delta \sqrt{m/n}$. The values of m , n , and m/n are tabulated for several r_2/r_1 . $m_1 \dots m_4$, n_1 and n_2 depend on k only. There are 4 figures, 1 table, and 2 references: 2 Soviet-bloc.

SUBMITTED: February 18, 1960



Card 10/10

AUTHOR: Baskirov, A.A.

TITLE: Orbitoids and Their Importance for the Stratigraphy of the Paleogene (Orbitoidy i ikh znachenie dlya stratigrafii paleogena)

PERIODICAL: Byulleten' Moskovskogo obshchestva ispytateley prirody - Otdel geologicheskii, 1958, Nr 2, pp 113-115 (USSR)

ABSTRACT: The author deals with the stratigraphical distribution of representatives of the orbitoid family among the Paleogene sediments of the north slope of the east Carpathian Mountains. Comparing the fauna of nummulites with that of orbitoids, he makes reference to the research work of K.L. Khloponin and G.I. Nemkov. He comes to the conclusion that the study of the fauna of orbitoids in the Carpathian Mountains, as well as in the Caucasus and in the Crimea, makes it possible to divide the entire complex of orbitoids, characterizing the Paleogene into the Lower Eocene epoch, the Middle Eocene epoch and the Upper Eocene epoch of the Mediterranean zone. Data on the stratigraphical distribution of the various

Card 1/2

Orbitoids and Their Importance for the Stratigraphy of the Paleogene

OV-5-5A-2-9/47

orbitoid complexes is illustrated in Figure 1.
There is 1 table and 11 references, 5 of which are Soviet,
1 Polish, 4 French and 1 German.

1. Geology--USSR 2. Paleecology 3. Geological time...
Determination

Card 2/2

Cand Geol-Min Sci - (diss) "Orbitoids and their significance for the stratigraphy of paleogenic deposits of the eastern slope of the Eastern Carpathians." Irkutsk, 1961. 22 pp; 1 page of tables; (Moscow Geological Survey Inst imeni S. Crdzhonikidze, Eastern Siberian Geological Inst of the Siberian Division of the Academy of Sciences USSR); 150 copies; price not given; (KL, 5-61 sup, 179)

ODINTSOV, M. M.; ODINTSOVA, M. M.; BASHKIROV, L. V.

Geology of Jurassic sediments in the northwestern part of the
Irkutsk amphitheater. Trudy VSGI SO AN SSSR no.3:60-71 '61.
(MIRA 15:10)

(Irkutsk Province--Geology, Stratigraphic)

LINETSAYA, L.V.; BASHKIROV, L.V.

Finds of organic remains in pebbles of Paleogene conglomerates
in the northern slopes of the Carpathians. Geol.sbor. (Lvov]
no.7/8:223-225 '61. (MIRA 14:12)

1. Institut geologii poleznykh iskopayemykh AN USSR.
(Carpathian Mountain region—Conglomerate)
(Carpathian Mountain region—Organic matter)

BASEKIROV, L.L.

Shell structure and the ontogenetic development of Paleogene orbitoids. Vop. mikropaleont. no.8:175-189 '64.

(MIRA 18:5)

1. Institut zemnoy kory Sibirskogo otdeleniya AN SSSR.

PASHENOV, I.V.

Classification of Tertiary orbitoids. Izv. vys. ucheb. zav.;
geol. i razv. 7 no.4:51-55 Ap '64. (MIRA 1833)

1. Vostochno-Sibirskiy institut Sibirskogo otdeleniya AN SSSR.

BASHKIROV, Matvey Viktorovich; GORDEYEV, V.A., retsenezent; ARKHANGEL'SKIY,
~~S.S., red. [deceased]~~; SOKOLOVA, V.Ye., red.; KNAKHIN, M.T.,
tekhn.red.

[Theory and practice of knotting various fibrous materials]
Voprosy teorii i praktiki soedineniia nitei razlichnykh
voloknistykh materialov. Moskva, Gos.nauchno-tekhn.izd-vo
lit-ry po legkoi promyshl., 1959. 223 p. (MIRA 13:1)
(Knots and splices) (Textile machinery)

BASHKIROV, M. V.

Bashkirov, M. V.

"Problems of Joining the Threads of Fibrous Materials by Tying Knots."
Min Higher Education USSR. Leningrad Textile Inst imeni S. M. Kirov.
Leningrad, 1955. (Dissertations for the Degree of Candidate in Technical
Sciences).

SO: Knizhnaya Letopis', No 27, 2 July 1955

"Firplanting in small sections under cover of removed sod."
Les. khoz., 5, No. 4, (43), 1952

304-1334, 13 June 44. (Nescherbakova Moskva, Moscow, 14 June 44)

SO: Sun 31, 23 Dec. 1954

BASHKIROV, N. M.

"Fedorov Theory of Stereohedra"

a report presented at Symposium of the International Union of
Crystallography Leningrad, 21-27 May 1959

AUTHOR: Bashkirov, N.M.

SOV/70-4-4-2/34

TITLE: A Generalisation of the Method of Ye.S. Fedorov's Stereohedra

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 4, pp 466-472 (USSR)

ABSTRACT: Fedorov worked out a theory of the filling of space by parallelhedra and stereohedra but used only figures with plane faces and convex angles, which limited its applicability. If this limitation is removed then the method can be extended to the 230 space groups. The Fedorov stereohedra are the figures obtained by cutting parallelhedra into the maximum number of equal parts, all asymmetric. The generalised parallelhedra are equal figures filling space in parallel orientation but having curved faces and concave angles. On cutting the parallelhedra into stereohedra, the symmetry ascribed to the parallelhedra must not change. The stereo-element, or generalised stereohedron, is one of these equal parts, the equivalent being either congruity or mirror-symmetry. Cutting the

Card1/2

A Generalisation of the Method of Ye.S. Fedorov's ^{SOV/70-4-4-2/34} Stereohedra

generalised parallelhedra is done by curved surfaces. By means of these stereo-elements all 230 space groups have been represented. A given space group is uniquely represented by its stereo-element. According to the arrangement of the stereo-elements, it is possible to determine all the symmetry elements of the space group. All point group symmetry elements lie in the surface of the symmetry element. The stereo-elements are purely geometrical and have no physical properties. Illustrations are given for some 19 particular space groups. Acknowledgments are made to A.V. Shubnikov. There are 26 figures.

ASSOCIATION: Institut kristallografii AN SSSR (Institute of Crystallography of the Ac.Sc., USSR)

SUBMITTED: March 28, 1959

Card 2/2

ACCESSION NR: AP4036512

S/0103/64/025/005/0692/0695

AUTHOR: Bashkirov, O. A. (Moscow); Braverman, E. M. (Moscow);
Muchnik, I. B. (Moscow)

TITLE: Algorithms for teaching recognition of visual patterns based on potential functions

SOURCE: Avtomatika i telemekhanika, v. 25, no. 5, 1964, 692-695

TOPIC TAGS: pattern recognition, visual pattern, pattern recognition theory

ABSTRACT: The algorithms are based on a hypothesis of compactness of simple visual patterns. Simple and improved potential algorithms are discussed. A standard function — potential — is connected with every point of the receptor space which appears in the teaching process: the potential is maximum at the point in question and decreases in all directions from that point; thus, the point can be considered as a "source of potential" in the receptor space. This formula for the potential describes the situation: $\varphi(R) = \frac{1}{1 + \alpha R^2}$, where α is a coefficient determining the rate of decrease of potential, R is the distance between the source and

Card 1/2

ACCESSION NR: AP4036512

the point in question. If the potential is generated by the points which appeared as a result of teaching and correspond to one pattern, the pattern potential will be given by:

$$\Phi_{\beta}(y) = \frac{1}{N_{\beta}} \sum_{i=1}^{N_{\beta}} \varphi[R(x_i^{\beta}, y)] \quad (\beta = 1, 2, \dots, n),$$

where β is the pattern number, x_i^{β} are the points corresponding to the samples of this pattern which appeared as a result of teaching, N_{β} is the number of such samples, n is the number of pattern taught to the machine. In the improved algorithm, the distribution of points learned by the machine is made more uniform. Rare and close to neighbors points are given a greater weight. This increases the potentials in the areas where the density of points is low, enhancing the reliability of recognition. Results of some experiments are reported. Orig. art. has: 3 figures, 3 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 15Oct63

DATE ACQ: 03Jun64

ENCL: 00

SUB CODE: DP

NO REF SOV: 001

OTHER: 000

ord 2/2

BASHIROV, P.N.

Materials for a study of the mobility in the joints of the extremities of man. Trudy MOIP Otd. biol. 14:26-33 '64. (MIRA 18:4)

1. Kafedra antropologii biologo-pochvennogo fakul'teta Moskovskogo gosudarstvennogo universiteta.

BASHKIROV, Petr Nikolayevich; TRUBETSKOY, A.V., red.; LAZAREVA, L.V.,
tekh. red.

[Study on the physical development of man] Uchenie o fiziche-
skom razvitii cheloveka. Moskva, Izd-vo Mosk. univ., 1962.
339 p.

(Man--Constitution)

(MIRA 15:10)

BASHKIFOV, F.N.

V.G.Shtefko's works on the physical development of children and youths and their importance. Biul.MOIP.Otd.biol. 67 no.5:149-150 S-O '62. (MIRA 15:10)
(SHTEFKO, VLADIMIR GERMANOVICH, d. 1945) (GROWTH)

ACC NR: A10024487

SOURCE CODE: UR/0181/66/008/007/2189/2196

AUTHOR: Amirkhanov, Kh. I.; Bashirov, R. I. 47

ORG: Institute of Physics, Dagestan Branch AN SSSR, Makhachkala (Institut fiziki Dagestanskogo filiala AN SSSR) 8

TITLE: Influence of spin on quantum oscillations of galvanomagnetic coefficients in n-InSb

SOURCE: Fizika tverdogo tela, v. 8, no. 7, 1966, 2189-2196

TOPIC TAGS: indium compound, antimonide, galvanomagnetic effect, quantum oscillation, magnetoresistance, Hall constant, spin phonon interaction

ABSTRACT: This is a continuation of earlier experimental studies of galvanomagnetic phenomena in n-InSb, and is devoted to a measurement of the longitudinal and transverse magnetoresistances and of the Hall effect in degenerate single-crystal samples of n-InSb (electron density from 10^{16} to $1.3 \times 10^{18} \text{ cm}^{-3}$). Some of the results of this investigation have already been published (ZhETF, Pis'ma v redaktsiyu, v. 1, no. 2, 17, 1965; v. 2, 100, 1965). The measurements were made at 70, 20, and 4.2K in pulsed magnetic fields up to 300 kOe, at two opposite directions of the current and of the magnetic field, by directly recording the measured phenomenon as a function of the magnetic-field intensity. The tests disclose the theoretically predicted spin splitting of the second oscillation maximum of the magnetoresistance, and the magnetic fields at which these splittings are observed are determined. The influence of the

ACC NR: AP0024407

temperature and of the electron density on the position of the spin-splitting oscillation maxima is also investigated. At 77K, when the correction for incomplete degeneracy can be theoretically made, the results yield a quantitative experimental confirmation of the theory of the zeroth spin maximum in a transverse magnetic field. The Hall constant was found to oscillate little at 4.2 and 20K, but extrema were observed in the longitudinal magnetic resistance at 77K. It is proposed that these extrema are the result of the sufficiently large number of transitions with spin flip between the zero Landau sublevels as a result of the scattering of electrons by phonons. Orig. art. has: 7 figures, 6 formulas, and 1 table.

SUB CODE: 20/ SUBM DATE: 14Dec65/ ORIG REF: 008/ OTH REF: 001

Card 2/2 *egk*

~~BASHKIROV, S.D., inzhener-kapitan~~

Mobile unit for the production of medical plaster. Voen-med.
zhur. no.2:73-74 F '56 (MLRA 10:5)

(PLASTER CASTS

mobile unit for prod. of med. plaster for military use) (Rus)

RASHKIROV, S.D., inzh.-kapitan

Train made up of bath, laundry, and disinfection cars.

Voen.-med. zhur. no. 8:76-79 Ag '58

(MIRA 12:1)

(MILITARY HYGIENE)

(MILITARY RAILROADS)

BASHKIROV, S.D., inshener-mayor.

Some advice on the use of disinfection and shower installations.
Voen.med.zhur. no.8:80-84 Ag'58. (MIRA 16:7)
(MILITARY HYGIENE--EQUIPMENT AND SUPPLIES)

BASHKIROV, S.D., inah.-mayor

Field repair shop. Voen.-med.shur. no.10:76-78 0 '59. (MIRA 13:3)
(MILITARY MEDICINE, equipment and supplies)

BASHKIROV, Sh.Sh.

Nuclear lattice relaxation in salts of paramagnetic ions in the
S-state. Uch. zap. Kaz. un. 117 no.9:154-156 '57.

(MIRA 13:1)

1. Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina.
Kafedra eksperimental'noy i teoreticheskoy fiziki.
(Paramagnetic resonance and relaxation)

BASHKIROV, Sh.Sh.

Times of paramagnetic lattice relaxation in hydrated salts of
bivalent copper. Uch. zap. Kaz. un. 117 no.9:157-161 '57.
(MIRA 13:1)

1. Kazanskiy gosudarstvennyy universitet im. V.I. Ul'yanova-Lenina.
Kafedra eksperimental'noy i teoreticheskoy fiziki.
(Paramagnetic resonance and relaxation)
(Copper salts)

Ref

BASHKIROV, Sh. Sh., Cand Phys-Math Sci--(diss) "On the theory of paramagnetic spin-screen relaxation." Kazan', 1958. 7 pp (Min of Higher Education USSR. Kazan' Order of Labor Red Banner State U im V.I. Ul'yanov-Lenin), 120 copies. Bibliography at end of text (11 titles) (KL, 22-58, 101)

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SOV/f26-6-4-1/34

AUTHOR: Bashkirov, Sh.Sh.

TITLE: Paramagnetic Lattice Relaxation Times for Salts of Paramagnetic Ions in S-States (Vremena paramagnitnoy reshotchnoy relaksatsii dlya soley paramagnitnykh ionov v S-sostoyanii)

PERIODICAL: Fizika Metallov i metallovedeniye, 1958, Vol 6, Nr 4, pp 577-585 (USSR)

ABSTRACT: A theoretical discussion is given of paramagnetic lattice relaxation in salts of Mn^{++} , Fe^{+++} , Cd^{+++} and Eu^{+++} . There is only one work in the literature which is concerned with paramagnetic salts of elements whose ions are in the S-state (Ref.1). In the present paper the problem is discussed from a wider point of view. It is assumed that the inter-action between magnetic ions and the lattice is due to the modulation of the internal electrical field of the lattice by thermal vibrations (Ref.2-3). The electrical field interacts directly with the orbital motion of the electrons while its effect upon the spin states is through the spin orbit coupling. The field should therefore not produce

Card 1/5

80V/126-6-4-1/34

Paramagnetic Lattice Relaxation Times for Salts of Paramagnetic Ions in S-States

any splitting of the energy levels in the S-state since the electron shell has a spherical symmetry and does not have an orbital moment. The small splitting which is nevertheless observed in these cases may be explained by the presence of states with non-zero orbital moments, i.e. they are not, in fact, pure S-states. The latter fact means that all the calculations may be carried out by operating with the electron spin, which may be taken as the total moment of the electron shell, including some non-zero orbital moment. Since the electrical splitting is small it follows that the interaction of the spins with the lattice will be weaker than in the case of other paramagnetic ions, which will lead to longer relaxation times. This means that it may turn out that an important role is played by relaxation processes due to the modulation of the magnetic interactions of ions by the thermal vibrations of the lattice. However, the

Card 2/5

SOV/126-6-4-1/34

Paramagnetic Lattice Relaxation Times for Salts of Paramagnetic Ions in S-States

latter effect falls off rapidly with dilution. On the other hand, a considerable number of experiments on paramagnetic resonance was carried out in magnetically diluted salts. The present paper gives an estimate of the effect of nuclear moments upon the electron relaxation. The latter problem arises because in some of the ions under consideration the hyperfine energy level structure is of the same order as the electrical splitting. The Hamiltonian, which takes into account the interaction of a paramagnetic ion with lattice vibrations, is taken in the form given by Kronig in Ref.2 and is given in a slightly modified form by Eqs.(1) and (2). The probabilities of direct and combinational processes are determined by the method given by Van Vleck. The relaxation times are calculated by means of the Gorter formula given in Ref.4 (Eq.3 of the present paper). Comparison with experimental data shows that the calculated value of the relaxation time for Gd^{+++} at $T = 290^\circ$ is of the

Card 3/5